

REMARKS

Claims 1-19 are pending in the present application. Applicant respectfully requests withdrawal of the rejections, and allowance of the claims.

I. Telephone interview; formalities

Applicant thanks the Examiner for withdrawal of the objections, and for the courtesies extended to Applicant's representatives during the January 24, 2003 telephone interview, the content of which is incorporated herein. The major points of discussion are outlined below. Also, Applicant thanks the Examiner for agreeing to send an Interview Summary and attachments.

Applicant respectfully requests withdrawal of the finality of the present Office Action, based on the new grounds of rejection under 35 U.S.C. § 112, 2nd paragraph and 4th paragraph. Additionally, Applicant respectfully submits that those new grounds of rejection should be withdrawn, for at least the reasons discussed in the telephone interview, and outlined in greater detail below.

First, with respect to the withdrawn indefiniteness rejections at item 13 of the Office Action, the Examiner stated that he intended to withdraw the 35 U.S.C. § 112, 1st paragraph written description rejections, as there is no pending indefiniteness rejection under 35 U.S.C. § 112, 2nd paragraph. Applicant thanks the Examiner for confirming the record with respect to this point, and for withdrawing the written description rejections.

Second, referencing the 35 U.S.C. § 112 rejection of claim 2 at items 17-21 of the present Office Action, Applicant thanks the Examiner for clarifying that there are no outstanding 35 U.S.C. § 112, 2nd and 4th paragraph rejections. With respect to the further limitation recited in claim 2 with respect to independent claim 1, during the telephone interview, Applicant's

representatives clarified that the recitation of dependent claim 2 provides a further limitation for those features recited in independent claim 1, from which claim 2 depends. For example, but not by way of limitation, the “parameter” recited in claim 1 and as would be understood by one skilled in the art, could be static (i.e., a constant numerical value) or dynamic (i.e., a varying numerical value). Claim 2, by reciting that the “parameter” is further limited to “design variable,” provides an additional limitation, in that the parameter can only be a design variable, which is a subset of values that a parameter as recited in claim 1 would include (e.g., variable as well as a non-variable or static/constants). Based on the foregoing, the Examiner agreed with Applicant’s position, and agreed to withdraw those rejections of claim 2 indicated in the final Office Action. Applicant thanks the Examiner this withdrawal of those rejections.

Third, Applicant noted that the Examiner had not properly listed Tang (U.S. Patent No. 6,061,673) as a reference of record on Form PTO-892, as previously requested by Applicant’s response. Applicant thanks the Examiner for agreeing to provide a Form PTO-892 listing the Tang reference, along with the Interview Summary.

Fourth, the Examiner has confirmed that he included the Tucker reference only as a background reference, and not as a new ground of rejection. Accordingly, the Examiner has indicated that there is no need to respond to the Examiner’s discussion of Tucker for the present response to be fully responsive, as will be indicated in the Interview Summary. Applicant thanks the Examiner for the foregoing clarifications and confirmations.

II. Claims 1-19 are in proper condition under 35 U.S.C. § 112, 1st paragraph

Claims 1-19 stand rejected under 35 U.S.C. § 112, 1st paragraph, due to alleged lack of enablement of independent claims 1, 10 and 15. The dependent claims are rejected as inheriting the same defects as the independent claims. As noted above, the 35 U.S.C. § 112 rejections of claim 2 have been overcome, and the only remaining ground for the 35 U.S.C. § 112 enablement rejection is with respect to independent claims 1, 10 and 15. For at least the reasons discussed herein, Applicant respectfully requests withdrawal of the enablement rejections.

With respect to independent claims 1, 10 and 15, the Examiner asserts that the term “neural network” is not properly enabled. However, Applicant respectfully submits that this rejection is improper, because the term “neural network” is not recited in claims 1, 10 and 15. Therefore, this rejection goes beyond the requirements of 35 U.S.C. § 112, 1st paragraph.

Even if, *arguendo*, the Examiner could properly apply an enablement rejection based on this term, Applicant notes that 35 U.S.C. § 112, 1st paragraph only requires that one skilled in the art be enabled to produce the claimed invention without undue experimentation. As acknowledged by the Examiner, a neural network is well known in the art. The present specification provides sufficient description of how the neural network is being applied, as discussed in Applicant’s previous response, and as indicated at application pages 28-37, which meet the requirements of enablement.

The Examiner’s disclosure of Salvendy, without a specific discussion of the features allegedly not present in the specification, supports Applicant’s assertion that one skilled in the art, given the presently disclosed use of a neural network as is done in the present invention,

would have been enabled to produce the claimed invention, given that such a person would have been able to apply any principles found in Salvendy. Applicant notes that description of that which is well known is not required to satisfy § 112, 1st paragraph requirements.

Also, Applicant respectfully submits that as previously set forth, the specification would clearly have enabled one skilled in the art to build a neural network without undue experimentation. Since a neural network is well known, the person skilled in the art could have performed experimentation with the specification, and if necessary, applied Salvendy to produce the claimed feature.

The Examiner has provided a citation indicating an unreasonable time for undue experimentation, but has not provided any application of that citation to any of the claims or Applicant's arguments, or even a discussion of its relevance. That citation does not appear to be relevant. Applicant respectfully requests further clarification of the application of that reference.

Applicant respectfully submits that the foregoing arguments are applicable to the dependent claims. Thus, those dependent claims are in proper condition for at least the same reasons as independent claims 1, 10 and 15. Thus, the 35 U.S.C. § 112, 1st paragraph rejections should be withdrawn.

III. Claims 1-19 are patentable over the cited prior art

The Examiner has maintained his prior art rejection of claims 1-19. More specifically, claims 1-7, 9-13 and 15-19 stand rejected due to alleged anticipation under § 102(e) over Kamegawa, and claims 8 and 14 stand rejected due to alleged obviousness under § 103(a) over Kamegawa in view of Tang. Further, Applicant respectfully submits that the claims are patentable over the cited prior art for at least the reasons discussed herein.

A. The claims are novel

Applicant respectfully submits that Kamegawa fails to disclose or suggest all of the claimed combinations of features. For example, but not by way of limitation, Applicant respectfully submits that Kamegawa fails to disclose a conversion system establishing a non-linear correspondence between design parameters of a tire and performances of a tire, as recited in independent claims 1, 10 and 15. While the Examiner asserts that Kamegawa “implicitly” discloses a non-linear correspondence based on the Examiner’s unsupported general observation that objective functions can be linear or non-linear, Applicant respectfully disagrees with the Examiner’s conclusion, as discussed in greater detail below.

More specifically, Applicant respectfully disagrees with that the Examiner’s assertion that Kamegawa implicitly discloses non-linear correspondence. Applicant notes that Kamegawa does not disclose any non-linear correspondence. As a result, the Examiner has asserted that there is some sort of implicit disclosure of such a correspondence. However, the Examiner has not cited any reference to support this proposition as applied to the relationships disclosed in Kamegawa. Further, the Examiner has only provided a general, unsupported statement to this effect. Applicant respectfully submits that the necessary evidence for a proper anticipation rejection has not been provided.

Further, with respect to the Examiner’s discussion of a “local derivative”, Applicant notes that Kamegawa does not disclose such a local derivative, and the relevance of that features with respect to the claims as well as Kamegawa is not clear in this Office Action. Applicant respectfully requests further clarification of this matter.

Applicant respectfully submits that the dependent claims are allowable for at least the same reasons as the independent claims from which they depend. Additionally, with respect to dependent claims 3, 6 and 18, the Examiner states that “predictive” is not recited in the claims, and that “deterministic” is not disclosed in Kamegawa. As further clarification, Applicant submits that determining, as disclosed in Kamegawa, in the iterative manner acknowledged by the Examiner, constitutes a deterministic model. Applicant respectfully submits that there is no prediction disclosed to be involved in this process, as is recited in claims 3, 6 and 18.

For the rejection of claims 7, 13 and 19, Applicant respectfully submits that the adaptive function is neither disclosed nor suggested in Kamegawa. More specifically, Applicant notes that the use of the term “mutate” in Kamegawa refers to a change in the design variable. Therefore, Applicant respectfully submits that the anticipation rejection of claims 7, 13 and 19 should be withdrawn.

Applicant also maintains that Kamegawa fails to disclose that the conversion system calculation means obtains a non-linear corresponding relation between (a) the design parameters of a tire and a condition to be applied to the tire, and (b) the performance of the tire, as recited in dependent claim 11.

Accordingly, Applicant respectfully requests withdrawal of the anticipation rejections, and allowance of the claims.

B. The claims would not have been obvious

The Examiner has maintained his obviousness rejections of claims 8 and 14. However, Applicant respectfully submits that the Examiner’s proposed combination of references fails to

properly disclose or suggest all of the claimed combinations of features. Applicant maintains that the proposed combination fails to disclose or suggest all of the claimed combinations of features recited in claims 8 and 14.

For example, but not by way of limitation, Applicant respectfully submits that the proposed combination of references fails to disclose or suggest constructing the conversion system with data in a multi-layered feed forward type neural network which has learned to convert the design parameters of the tire to performances thereof, as recited in claims 8 and 14.

The Examiner proposes to combine Tang into Kamegawa to cure the deficiency of Kamegawa (i.e., lack of a multi-layered feed forward type neural network which has learned to convert the design parameters of the tire to performances thereof). However, Applicant respectfully submits that the proposed combination of Kamegawa and Tang is improper, and even if properly combinable, still fails to disclose or suggest the features recited in claims 8 and 14.

Applicant respectfully submits that Kamegawa discloses a determinative system that does not apply predictive capabilities, and cannot handle non-linear situations (e.g., multiple peaks as discussed above). Thus, there is no motivation to combine Kamegawa with Tang, which is a non-determinative modeling tool that employs learning methods for binary systems. The two references teach completely different approaches, and are thus believed to teach away from each other, and would thus not be properly combinable.

Even if Tang were properly combined with Kamegawa, Applicant respectfully submits that Tang does not disclose a multi-layered feed forward type neural network that has learned so

as to convert the design parameters of the tire to performances thereof, as recited in claims 8 and

14. Applicant respectfully submits that because neither of the references discloses or suggests the aforementioned claimed feature, there is no support for the Examiner's assertion that claims 8 and 14 are rendered obvious.

Applicant notes that because neither reference discloses or suggests that claimed feature, the source of motivation for the Examiner's proposed combination of references is not readily ascertainable from the Office Action. Applicant also reminds the Examiner that using the present claimed invention, as disclosed in the present application, as a motivation for combining references constitutes impermissible hindsight reconstruction.

Therefore, Applicant respectfully requests withdrawal of the obviousness-type rejections, as well as the anticipation rejections, and allowance of the claims.

IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880.

Response Under 37 C.F.R. § 1.116
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Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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